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10/813,272	03/31/2004	Takaaki Shirai	119320	5401
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OLIFF & BERRIDGE, PLC P.O. BOX 320850 ALEXANDRIA, VA 22320-4850			EXAMINER	
			GRANT IL, JEROME	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/813,272	<b>Applicant(s)</b> SHIRAI, TAKAAKI
	<b>Examiner</b> Jerome Grant II	<b>Art Unit</b> 2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on \_\_\_\_\_.  
 2a) This action is FINAL.      2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-21 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_ is/are allowed.  
 6) Claim(s) 1-16 and 19-21 is/are rejected.  
 7) Claim(s) 17 and 18 is/are objected to.  
 8) Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date: _____.  
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application Paper No(s)/Mail Date: _____.  
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>1/07/4/04</u>	6) <input type="checkbox"/> Other: _____

Detailed Action

1.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 5-7and 9 -11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claim 5-7,he claims refers to an estimation of a time required until the reading of other surfaces. However, there is no reference or time that the estimation should be initiated. From what time should the estimation begin?

With respect to claim 9, there is no antecedent basis for "the subject document".

Furthermore, the last five lines of the claim are confusing. How can image forming commence if the document hasn't been read ?

With respect to claim 10, "the subject" has no antecedent basis in the second to last line of the claim.

With respect to claim 11, it is unclear as to whether documents are arranged on a platen, document holder or if they are arranged in memory or a specific order.

Clarification is required.

There is no antecedent for "the subject" in the last line of the claim.

2.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 4, 12, 20 and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Hayashi.

With respect to claim 1, Hayashi teaches an image copying device (40), shown by figure 1, comprising: a reading portion (first unit according to para. 17) that reads in an image formed on one surface of a document, see step S2 of figure 4 and 5, note also the top portions; storage portion that stores image data that is read in by the reading portion (see the image memory at line 3 of para. 70, see also line 8 of para 79; an image forming portion (identified as 3<sup>rd</sup> unit, see para. 17, lines 12-19) that forms an image on

Art Unit: 2625

a recording medium based on the image data stored in the storage portion; a reading control portion (4<sup>th</sup> unit, see para. 17, last four lines) that provides control such that, when a plurality of documents having images formed on both sides thereof are to be read by the reading portion, images formed on one surface (the first surface) of the documents are read sequentially and are stored sequentially in the storage portion, and then, after the reading in of the one surfaces of the documents are completed, images on the other surfaces (2nd surfaces) of the documents are read in sequentially and stored in the storage portion (see also para. 74, and elements 80 and 81) for reading both surfaces of a plurality of documents; and image forming control portion (60 including cpu 61) that reads out, from the storage portion, image data for the one surfaces of the documents and the corresponding image data of the other surfaces of the documents, that controls the image forming portion to form images sequentially on the recording medium based on the image data, and that causes the start of the forming of the image on the recording medium by the image forming portion before the reading in of all of the other surfaces of documents by the reading portion has been completed. See also, para. 80 for reading the 2<sup>nd</sup> page and forming the image of the 1<sup>st</sup> document before the reading of the 2<sup>nd</sup> page has been completed.

With respect to claim 2, Hayashi teaches wherein the image forming control portion sets, into a pair of image data (a first side and a second side, see para. 81) image data of the one surface of each document and image data for the other surface of the subject document, which is stored in the storage portion (described at line 3 of

Art Unit: 2625

paragraph 70) and forms an image ( by 3<sup>rd</sup> performing unit described at paragraph 17) based on the image data for the one surface of the document on another surface of the recording medium (see also para. 80 and 81) regarding obtaining images from dual sides of an image medium.

With respect to claim 4, Hayashi teaches wherein the image forming control portion (unit 3 at para. 17) performs control in such a manner that the forming of images onto the recording medium by the image forming portion is started after the reading of the other surfaces of the documents (see para. 80 and 88) which has started and when image data for the other surface of at least one document has been stored in the storage portion.

With respect to claim 12, this limitation is inherent since data is deleted when the next document overwrite the contents previously stored.

With respect to claim 20, see para 74 where double sided documents are processed.

With respect to claim 21, Hayashi teaches an image copying device (40), shown by figure 1, comprising: a reading portion (first unit according to para. 17) that reads in an image formed on one surface of a document, see step S2 of figure 4 and 5, note also

the top portions; storage portion that stores image data that is read in by the reading portion (see the image memory at line 3 of para. 70, see also line 8 of para 79; an image forming portion (identified as 3<sup>rd</sup> unit, see para. 17, lines 12-19) that forms an image on a recording medium based on the image data stored in the storage portion; a control portion (4<sup>th</sup> unit, see para. 17, last four lines) that provides control such that, when a plurality of documents having images formed on both sides thereof are to be read by the reading portion, images formed on one surface (the first surface) of the documents are read in sequentially and are stored sequentially in the storage portion (storage memory referred to by the top portions of figures 2, 5 and 6), and then, after the reading in of the one surfaces of the documents are completed, images on the other surfaces (2nd surfaces) of the documents are read in sequentially and stored in the storage portion (see also para. 74, and elements 80 and 81) for reading both surfaces of a plurality of documents; and image forming control portion (60 including cpu 61) that reads out, from the storage portion, image data for the one surfaces of the documents and the corresponding image data of the other surfaces of the documents, that controls the image forming portion to form images sequentially on the recording medium based on the image data, and that causes the start of the forming of the image on the recording medium by the image forming portion before the reading in of all of the other surfaces of documents by the reading portion has been completed. See also, para. 80 for reading the 2<sup>nd</sup> page and forming the image of the 1<sup>st</sup> document before the reading of the 2<sup>nd</sup> page has been completed. Note that as documents Dn

Art Unit: 2625

are being read, Document 1, which has been read into memory are prepared for image forming, see for example para. 80 of Hayashi.

3.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi in view of Yoshida.

With respect to claim 3, Hayashi teaches all of the claim limitations except for scanning all of the documents on one side first and scanning all of the documents on the second side.

Yoshida teaches scanning all the first side of documents together then scanning all the second side of the documents together. See col. 5, line 58 to col. 6, line 5.

Since Hayashi and Yoshida are both directed toward dual side scanning, the purpose of scanning the first side of the plurality of read documents and all the second side of the same documents, would have been recognized by Hayashi as clearly set forth by Yoshida.

Art Unit: 2625

It would have been obvious to modify the control unit 60 of Hayashi to program it to read the first side of all documents, followed by the second side as clearly set forth by Yoshida.

4.

Claims 8, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi in view of Moriura.

With respect to claim 8, Hayashi teaches the reading of the other surface of a document and the image forming based on the image data from the other surface of the document are performed in parallel (since image of the 1<sup>st</sup> document is imaging and the second document is reading, see paragraphs 80 and 81).

Hayashi teaches all of the subject matter except halting an image forming function when the memory for image forming is less than a reference amount while reading a surface of a document.

Moriura teaches this limitation at paragraphs 105-110.

At paragraph 105, a discrimination is made to determine an available amount of space in the page buffer. At paragraph 108, printing is halted when data in the memory reaches level D. Paragraphs 105-110 describe a process for stopping a printing process while the reading processes is executed by image read/forming device 100, shown by figure 1.

Since Hayashi and Moriura are both directed toward image reading and forming units for reading documents, the purpose of stopping an image forming operation, when a predetermined level of memory is reached, would have been recognized by Hayashi as set forth by Moriura.

It would have been obvious to program control unit 60 of Hayashi and modify the connection with the image memory (described at line 3 of para. 70) to monitor the level of memory available for printing and to cease printing when the memory reaches a predetermined level, according to Moriura.

With respect to claim 15, Hayashi teaches all of the subject matter upon which this claim depends, as recited in the rejection of claim 14.

Hayashi teaches all of the subject matter upon which the claim depends except for: 1) the use of dual memories and 2) stopping the reading into and out of dual memories.

Regarding the first, Hayashi teaches reading image data in image memory (see the top of figures 2, 5 and 6) and line 3 of para. 17, while image forming surfaces of documents previously stored in the memory.

Whereas the applicant refers to two separate memories, Hayashi uses one memory unit to facilitate the same function as applicant. There is no apparent advantage provided by applicant for using two memory devices. It is within the scope of one of ordinary skill in the art, that the memory units described by Hayashi may comprise a plurality of memory elements each for storing predetermined surface areas of a document for imaging.

None-the-less, there is no advantage of using two memory units when one can be used having the same memory capacity as the two for the purpose of facilitating the image forming of documents.

Regarding the second, Moriura teaches this limitation at paragraphs 105-110. At paragraph 105, a discrimination is made to determine an available amount of space in the page buffer. At paragraph 108, printing is halted when data in the memory reaches level D. Paragraphs 105-110 describe a process for stopping a printing process while the reading processes is executed by image read/forming device 100, shown by figure 1.

Since Hayashi and Moriura are both directed toward image reading and forming units for reading documents, the purpose of stopping an image forming operation, when a predetermined level of memory is reached, would have been recognized by Hayashi as set forth by Moriura.

Art Unit: 2625

It would have been obvious to program control unit 60 of Hayashi and modify the connection with the image memory (described at line 3 of para. 70) to monitor the level of memory available for printing and to cease printing when the memory reaches a predetermined level, according to Moriura.

With respect to claim 16, Hayashi teaches all of the subject matter upon which the claim depends, as recited in the rejection to claim 13 above.

Hayashi teaches the use of a single storing unit which (although not specifically stated) could comprise a plurality of other storage devices.

Never-the-less, Moriura teaches a plurality of memory devices as a storage unit. The memory devices are 153a-153d. It is well known that memory devices have different capacities, hence one of ordinary skill in the art would have known to use memory devices of different capacities in order to facilitate the storage of different documents.

5.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9-11, 13, 14 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi.

With respect to claim 9, as best can be understood in view of the 112 rejections of this claim, the following rejections are being made.

Hayashi teaches all of the subject matter upon which the claim depends as recited in the rejection to claim 1. The limitations of claim 9 are believed to be met when the reading unit and the first unit described at para. 17 reads after a first document has been formed as suggested by para. 80 and 81. Although two documents are given in the example, this process is applicable for a plurality of documents.

With respect to claims 10 and 11, Hayashi teaches reading a first and second side of surfaces of a document by means for first unit according to para. 17, line 3, and reading them into a storage portion (see figures 2, 5 and 6 - top portions).

Hayashi also teaches reading the document data from memory via fourth unit, described in the last four lines of para. 17, and forming the images by a third unit described at para. 17, lines 12-19.

Hayashi does not teach reading in or out of a memory in the reverse order that data was read in. However, this concept is well known as "FILO" or first in memory is last to be read out from memory.

Hence, data is then read out in a reverse order than that it was read in.

Hence, the skill artisan working in the image processing art would have known to use this processor reading data into and from a memory in a forward or reverse manner from that which the data has been obtained.

With respect to claim 13, Hayashi teaches all of the subject matter upon which the claims depends except for two storing units.

Hayashi teaches reading image data in image memory (see the top of figures 2, 5 and 6) and line 3 of para. 17, while image forming surfaces of documents previously stored in the memory.

Whereas the applicant refers to two separate memories, Hayashi uses one memory unit to facilitate the same function as applicant. There is no apparent advantage provided by applicant for using two memory devices. It is within the scope of one of ordinary skill in

the art, that the memory units described by Hayashi may comprise a plurality of memory elements each for storing predetermined surface areas of a document for imaging. None-the-less, there is no advantage of use two memory units when one can be used having the same memory capacity as the two for the purpose of facilitating the image forming of documents.

With respect to claim 14, Hayashi teaches all of the subject matter as referred to in the rejection to claim 13.

Claim 14 recites overwriting the content stored in the first and second memories. This limitation is inherent since data is deleted when the next document overwrite the contents previously stored.

With respect to claim 19, Hayashi teaches all of the subject matter upon which the claim depends except for the compression portion as claimed.

The examiner submits that image compression is well known in the image processing art and to one of ordinary skill in the art, it would have been well known to process image data by compressing it before it is stored in a memory devices in order to increase the amount of useful data that could be stored in a memory device.

6.

Claims Objected As Containing Allowable Matter

Claims 17 and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7.

Claims Objected

Claims 5-7 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

8.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerome Grant II whose telephone number is 571-272-7463. The examiner can normally be reached on Mon. – Fri. from 9:00-5:00

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Coles, can be reached on 571-272-7402. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Jerome Grant II/

Primary Examiner, Art Unit 2625